HUMIDITY AND TEMPERATURE CONTROLLER

HT

INSTALLATION, MAINTENANCE AND USER MANUAL

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ToC

1. PACKAGE CONTENT 3

2. SECURITY MEASURES 3

1.1 General Measures 3
1.2 Thermo-hygrometric conditions of the installation 3
1.3 Waste Disposal 3
1.4 Warranty 3

3. MANUFACTURER 4

4. 4 CONFORMITY DECLARATION 5

5. WORKING PRINCIPLE 6

6. CHARACTERISTICS 6

7. HT CONTROLLER BEHAVIOUR 7

8. HT CONTROLLER PROGRAMMING MENU 7

9. ELECTRICAL CONNECTIONS 8

10. HT CONTROLLER BOARD (COMPONENT SIDE) 9

11. HUMIDITY/TEMPERATURE PROBE CONNECTION (LINPICCO A420): 10

Please before using your equipment read this guide carefully, by noting all the precautions and safety instructions reported in it. Keep your equipment in good operative conditions.

Familiarize with the working and security instructions related to the operation of your apparatus before trying to make it function. Keep this guide and any other booklet provided with your apparatus to be able to refer to them later.

1. Package content

HT controller packaging contains:

- ◊ The controller
- ◊ The humidity and temperature probe (LINPICCO-A420)
- ◊ This user guide
- ◊ A single-phase 230 Vac // 0-12 Vac transformer (option)

2. Security measures

1.1 General Measures

People who are not familiar with this type of equipment or who have not read this manual carefully should not be allowed to use the humidifier

Your controller has been designed to be used with AC voltage 12V or 230Vac 50/60Hz if the optional transformer is bought. Do not attempt to use the humidifier with a different kind of power supply. Check that the mains voltage corresponds to that of the controller.

Your controller must always be turned off before any maintenance.

All maintenance and repair work must be performed by the manufacturer, its service agent or qualified service personnel.

1.2 Thermo-hygrometric conditions of the installation

Make sure that the environmental conditions of the place where the humidifier is installed are compatible with the requirements of the product as specified in this manual. Each product Elsteam cannot be installed exposed to the weather or freezing temperatures, unless different terms are explicitly expressed in related document.

1.3 Waste Disposal

Directive 2002/96/EC of the European Parliament and the relevant national rules impose an obligation not to dispose of WEEE as unsorted municipal civil, but to set up a special collection for obsolete parts of the humidifier.

It is still given the option to the buyer to return the humidifier into disuse at Elsteam Ltd. in case of purchase of an equivalent humidifier. Elsteam will dispose of them in their own or through its agents.

The disposal of electrical or electronic components in an abusive manner and not in accordance with applicable regulations is forbidden by the law. In the event of illegal disposal of electrical and electronic waste, the penalties are specified by local waste disposal legislation.

1.4 Warranty

Elsteam S.r.l. acknowledges to its products guarantees of law applicable at the time of sale of the product, and in any case guarantees at all times, even ten years after the sale, the free replacement of

components which considers the apparent problem of construction.
Misuse and lack of maintenance will be automatic forfeiture of any form of guarantee.

3. Manufacturer

Manufacturer
Elsteam S.r.l.

Sede legale – amministrativa
Via ENRICO FERMI 496, 21042 CARONNO PERTUSELLA (VA) - ITALY

Contatti
Tel.: (0039) 029659890
Fax: (0039) 0296457007
Email: infocomm@elsteam.com
Web: www.elsteam.com

4.4 Conformity Declaration

IL COSTRUTTORE

ELSTEAM S.r.l.
Azienda

Via Enrico Fermi, 496	**21042**	**VA**
Indirizzo	*Cap*	*Provincia*

Caronno Pertusella	**Italy**
Città	*Stato*

DICHIARA CHE LA MACCHINA

Umidificatore a resistenze	**REH**
Descrizione	*Modello*

REH	**2013**
Serie/Matricola	*Anno costr.*

Umidificatore Proporzionale ad Alta Pressione
Denominazione commerciale

Umidificazione di ambienti
Uso previsto

E' conforme alle direttive comunitarie

- 2006/95/CEE "Direttiva Bassa Tensione" del Consiglio 27 Dicembre 2006
- 89/336/CEE "Compatibilità Elettromagnetica EMC" modificata da:
  - Direttiva 91/263/CEE del Consiglio del 29 aprile 1991
  - Direttiva 92/31/CEE del Consiglio del 28 aprile 1992
  - Direttiva 93/68/CEE del Consiglio del 22 luglio 1993
  - Direttiva 04/108/CEE del Consiglio del 15 dicembre 2004

Claudio Cattaneo	**Dirigente**
Responsabile	*Funzione*

Claudio Cattaneo	**Dirigente**
Responsabile	*Funzione*

2013
Anno

5. Working Principle

Elsteam HT controller is a programmable humidity and temperature controller. It has following operational modes:

- Hygrostat + Thermostat (default)
- Thermostat
- Hygrostat

Thermostat operational mode can be programmed for cooling or heating; Humidistat mode can be programmed for humidifying or dehumidifying.

6. Characteristics

Technical characteristics	
Input	4-20mA humidity probe PT1000 temperature probe RS485 (*not available*)
Output	1 ON/OFF output (relay) Temperature – heating 1 ON/OFF output (relay) Temperature – cooling 1 ON/OFF output (relay) Humidity – humidifying 1 ON/OFF output (relay) Humidity – dehumidifying 1 linear output (0-5V) Temperature 1 linear output (0-5V) Humidity 1 output Attivazione (+5V o +12V) 1 ON/OFF output (relay) Alarm
Electrical Connections	
Power Supply	12Vac o 12Vdc
Power	
Mechanical	
Dimensions [mm] LxPxA	6,5x6,5x16 cm
Weight [kg]	

7. HT controller behaviour

The controller has two lines display and 4 keys keyboard:

- SET
- OK
- "+"
- "-"

During normal operational mode, press "SET" key to enter/exit programming mode. Buttons "+" and "-" are used to move between items in menu or increase/decrease parameters value. "OK" key is used to confirm parameter value.
By pressing "+" or "-" buttons while not modifying a menu parameter allows the user to change display data:

8. HT controller programming Menu

To move between menu items use "+" and "-" buttons.

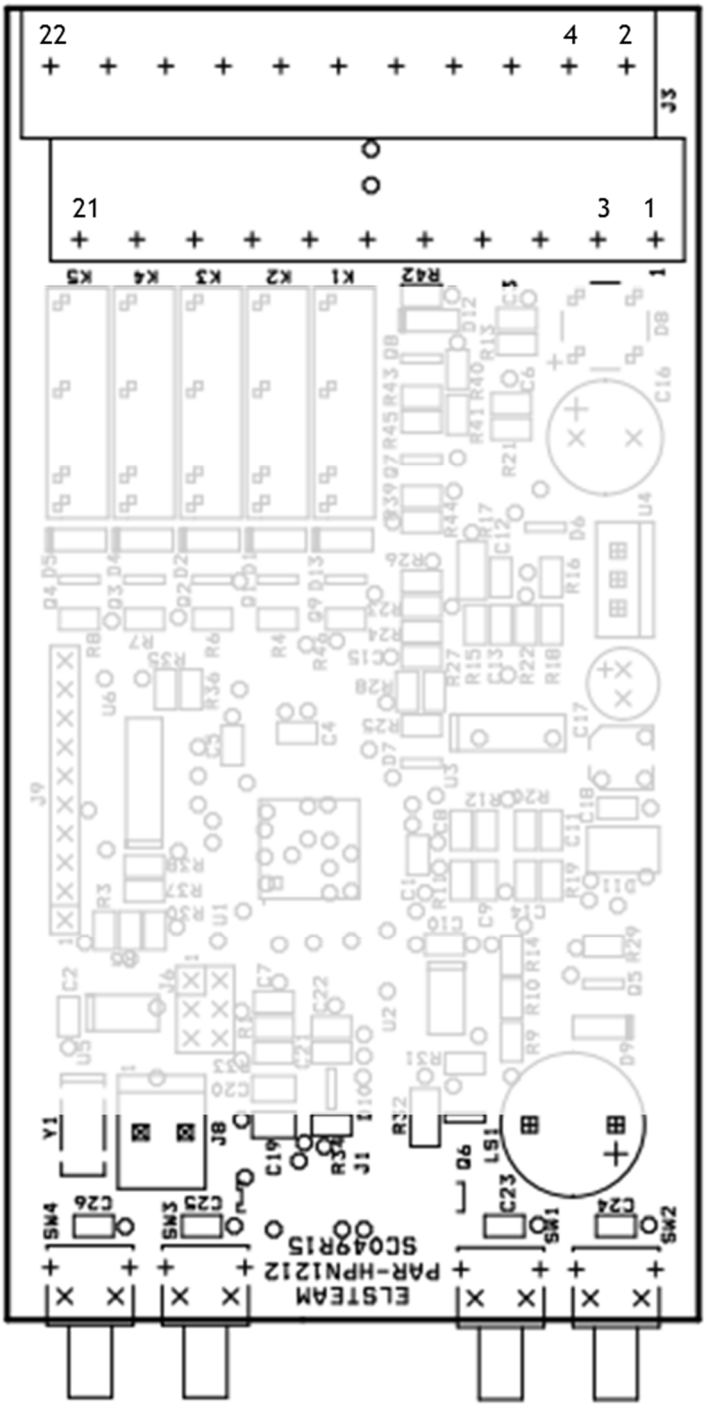
- Language:
  - Italian (default).
  - English.
  - French.
- Working Mode:
  - Hygrostat + Thermostat (default)
  - Thermostat
  - Hygrostat
- Thermostat working mode (if thermostat mode selected):
  - Heating (default).
  - Cooling.
- Hygrostat working mode (if hygrostat mode selected):
  - Humidifying (default).
  - Dehumidifying.
- Temperature set point (if thermostat mode selected).
- Humidity set point (if hygrostat mode selected).
- Temperature hysteresis (if thermostat mode selected): default 1°C.
- Humidity hysteresis (if hygrostat mode selected): default 3%.
- Temperature threshold[1] (if thermostat mode selected): default 15%.
- Humidity threshold[1] (if hygrostat mode selected): default 15%.
- Alarm: default: OFF.
- Alarm Hours (if alarm on): default 1h
  - If alarm is on relay is activated if the parameter does not reach the set point within parameter value time (hours)
- Last alarm: display information concerning last occurred alarm.
- Alarm string: string to display during alarm conditions (ex. assistance phone number)
- Time setting
- Day setting

[1] If the value passes the set point (temperature /or humidity) by parameter value the linear output reach 100% (5V).

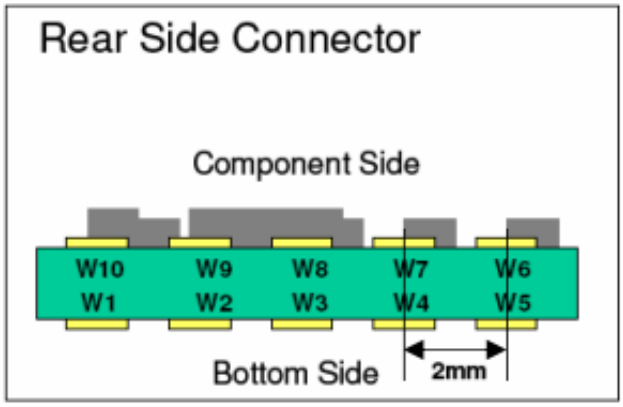
9. Electrical Connections

Pin	Description
1	Power Supply 0Vac.
2	Power Supply 12Vac.
3	Output +12 Vcc.
4	GND
5	*RS485-A (not used)*
6	*RS485-B (not used)*
7	Linear Output 0 – 5Vcc humidity
8	Linear Output 0 – 5Vcc temperature
9	GND current loop input (4-20mA humidity probe)
10	PT1000+ Input (temperature probe)
11	PT1000- Input (temperature probe)
12	ON/OFF output +V (+V can be set to +5Vcc or +12Vcc at farm). Default 12Vcc
13	Alarm Relay contact
14	Alarm Relay contact
15	Humidity Relay 1 contact (humidification)
16	Humidity Relay 1 contact (humidification)
17	Humidity Relay 2 contact (dehumidification)
18	Humidity Relay 2 contact (dehumidification)
19	Temperature Relay 1 contact (heating)
20	Temperature Relay 1 contact (heating)
21	Temperature Relay 2 contact (cooling)
22	Temperature Relay 2 contact (cooling)

10. HT controller board (component side)



11. Humidity/Temperature probe connection (LinPicco A420):



LinPicco A420 Probe rear connections

Connections

A420		Controller
W5	PT1000	Pin 10
W6	PT1000	Pin 11
W10	Current Loop Vcc+	Pin 3
W7	Current Loop Return	Pin 9